

## REMARKS

Claims 1-19 are now pending. Claims 1-8 have been amended to even further clarify the claimed subject matter, and Claim 10 has been amended to correct a grammatical error. Claims 12-19 have been added to provide Applicant with a more complete scope of protection. At least the changes made to the allowed claims and Claim 10 have not been made for purposes relating to patentability. Claims 1-5 are independent.

The Examiner is thanked for allowing Claims 2-5.

Claims 1 and 6-11 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Publication No. 2002-0060516 (*Kawate et al.*).

Claim 1 has been amended to clarify the structural feature that at least one of the cathode electrode and gate electrode has a structure for making electric field strengths applied between each of the two end portions and the gate electrode weaker than an electric field strength applied between a region between the two end portions and the gate electrode, at a time of driving.

The Office Action relies on Figs. 2A and 2B to reject Claim 1. With regard to those figures, paragraphs [0205] to [0210] of *Kawate et al.* state:

[0205] The electron-emitting device according to Example 2 will be described below with reference to **FIGS. 2A and 2B**. **FIGS. 2A and 2B** are schematic views of the electron-emitting device according to Example 2 of the present invention, wherein **FIG. 2A** is a plan view thereof and **FIG. 2B** a cross-sectional view along **2B-2B** in **FIG. 2A**.

[0206] The electron-emitting device in the present example was fabricated in the same manner as in Example 1 in the structure and others except that the thickness of the

extraction electrode 2 in Example 1 was changed to 200 nm, and  $I_f$  and  $I_e$  were measured therewith.

[0207] In the structure of the instant device, the thickness of the negative electrode 3 was larger than the thickness of the extraction electrode 2 whereby the electron emission position was able to be set surely at a higher position (on the anode side) from the extraction electrode 2.

[0208] This configuration decreased the number of electrons flying in the trajectories colliding with the gate, so as to be able to prevent the phenomena of decrease of efficiency and increase of the beam size.

[0209] As a consequence, in the structure of the present device, the electron emission current  $I_e$  of about 1  $\mu\text{A}$  was also measured at  $V_f$  of 20 V. On the other hand,  $I_f$  was similar to the characteristic of  $I_e$  but values thereof were two figures smaller than those of  $I_e$ . The beam sizes at this time were also approximately the same as in Table 1.

[0210] By employing the configuration of the electron-emitting device according to the present example, as described above, the electron-emitting device was realized with the properties of the reduced capacitance and driving voltage, the high efficiency, and the small beam size.

However, nothing in *Kawate et al.* would teach or suggest the above-underlined structural features set forth in Claim 1. Accordingly, Claim 1 is believed to be clearly patentable over *Kawate et al.*

Each of the independent Claims 2-5 also has been amended to clarify the claimed structural features relating to end portions of a film and electrode(s), as indicated below.

As amended, independent Claim 2 recites, in part:

“wherein an area of a portion of the cathode electrode which is located between each of the two end portions and the gate electrode in the plane is larger than an

area of a portion of the cathode electrode which is located between a region located between the two end portions and the gate electrode.”

Independent Claim 3, as amended, recites, in part:

“wherein the cathode electrode has protruding portions in areas between each of the two end portions of the film and the gate electrode in a plane substantially parallel to the surface of the substrate, the protruding portions protruding more to the gate electrode side as compared with an area between a region located between the two end portions of the film and the gate electrode.”

As amended, independent Claim 4 recites, in part:

“wherein the gate electrode has a shape in which a distance therefrom to a region located between the two end portions of the film is shorter than a distance therefrom to each of the two end portions of the film.”

As amended, independent Claim 5 recites, in part:

“wherein a distance from a center line between the cathode electrode and the gate electrode to a region located between the two end portions of the film is shorter than a distance from the center line to each of the two end portions of the film.”

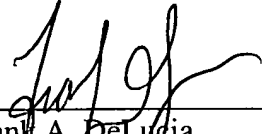
The foregoing independent claims also are believed to be clearly patentable over *Kawate et al.* because that reference does not teach or suggest the foregoing, respective quoted features of those claims.

The other rejected claims each depend from one or another of the independent claims addressed above, and also are believed to be patentable, at least for the reason that each depends from a patentable base claim.

Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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